Reading: (read this topics and practice each of example by hand)

1. Control flow: https://docs.python.org/3/tutorial/controlflow.html
2. Data structure: https://docs.python.org/3/tutorial/datastructures.html

Question 1

Write a Python program to sum all the items in a list

Question 2

Write a Python program to get the smallest number from a list.

Question 3

Write a Python program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings.

Sample List : ['abc', 'xyz', 'aba', '1221']

Expected Result : 2

Question 4

Write a Python program to check a list is empty or not

Question 5

Write a Python program to convert temperatures to and from celsius, fahrenheit. [Formula : c/5 = f-32/9 [where c = temperature in celsius and f = temperature in fahrenheit]

Expected Output :

60°C is 140 in Fahrenheit

45°F is 7 in Celsius

Question 6

Write a Python program to guess a number between 1 to 9.

Note : User is prompted to enter a guess. If the user guesses wrong then the prompt appears again until the guess is correct, on successful guess, user will get a "Well guessed!" message, and the program will exit.

Hints: User random.randint() to generate a random number

See the doc:

Question 7

Write a Python program to count the number of even and odd numbers from a series of numbers.

Sample numbers : numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)
Expected Output :
Number of even numbers : 5
Number of odd numbers : 4

Question 8

Question:
Write a program which will find all such numbers which are divisible by 7 but are not a multiple of 5,
between 2000 and 3200 (both included).
The numbers obtained should be printed in a comma-separated sequence on a single line.
Hints:
Consider use range(#begin, #end) method, ‘and’

Question 9:

Task

Read an integer N. For all non-negative integers $i < N$, print i^2. See the sample for details.

Input Format

The first and only line contains the integer, N.

Constraints

$1 \leq N \leq 20$

Output Format

Print N lines, one corresponding to each i.

Sample Input

```
5
```

Sample Output

```
0
1
4
9
16
```

Problem 10:

Li = [25,2,56,12,9,3,2,5,1,4,1,58,36,96,4]

Read max number algorithm from internat . and find max number in 'li'

Note: don't use python built in max function

Problem 11:

Write a program that prints the next 20 leap years.

Problem 12:

Write a function that returns the elements on odd positions in a list.

Problem 13:

Write a function that computes the running total of a list.

Problem 14:

Write a function that tests whether a string is a palindrome.

Problem 15:

Write a function that concatenates two lists. `[a,b,c]`, `[1,2,3]` → `[a,b,c,1,2,3]`

Problem 16:

Write a program that prints the next 20 leap years.

Problem 17:

Implement binary search.

Problem 18:

Write a function that takes a list of strings and prints them, one per line, in a rectangular frame. For example the list `["Hello", "World", "in", "a", "frame"]` gets printed as:

```
*********
* Hello *
* World *
* in    *
* a     *
* frame *
*********
```